

What is claimed is:

1. A kit of parts for use in the manufacture of a particle cassette for a  
needleless syringe device, said kit comprising:

5 a first cassette part having a first rupturable membrane sealed thereto; and  
a second cassette part having a second rupturable membrane sealed thereto; said  
first and second cassette parts being arranged to be attachable together so as to create a  
chamber for the confinement of particles between said first and second membranes.

10 2. A kit according to claim 1 wherein said first cassette part is substantially  
annular and defines a receptacle for receiving particles.

3. A kit according to claim 2, wherein said second cassette part is  
substantially annular and is attachable concentrically around said first cassette part.

15 4. A kit according to claim 1, wherein said first and second cassette parts are  
arranged to be attached by an interference fit.

20 5. A kit according to claim 1, wherein said first and second cassette parts  
each comprise corresponding features which provide for a snap fit when said first and  
second cassette parts are brought together.

6. A kit according to claim 5, wherein said corresponding features comprise a  
detent and a recess.

25 7. A kit according to claim 1, wherein said first and second cassette parts  
each comprise a seating face which ensures the attainment of a predetermined dimension of  
said cassette in the direction in which said first and second parts are attachable together.

8. A kit according to claim 1, wherein said first and second cassette parts each comprise a tapered face which are arranged to contact one another fully when said cassette is properly assembled.

5 9. A kit according to claim 5, wherein said corresponding features are provided on tapered faces which are arranged to contact one another fully when said cassette is properly assembled.

10 10. A kit according to claim 1, further comprising a third cassette part for locking together said first and second cassette parts.

11. A kit according to claim 10, wherein said third cassette part has a third membrane sealed thereto.

15 12. A kit according to claim 10, wherein said third cassette part comprises a protrusion for creating an interference fit with said second cassette part.

20 13. A kit according to claim 1, wherein said first and second cassette parts are shaped so as to be fitted together leaving an annular gap around said first cassette part.

25 14. A kit according to claim 10, wherein said first and second cassette parts are shaped so as to be fitted together leaving an annular gap around said first cassette part and said third cassette part has a portion which inserts into said annular gap so as to lock said first, second and third cassette parts together.

15. A kit according to claim 1, wherein said first cassette part comprises at least one transfer duct for supplying gas to said particle confinement chamber.

16. A kit according to claim 10, wherein said third cassette part comprises gas

ports for supplying gas to an annular space around said third cassette part.

17. A particle cassette for a needleless syringe comprising:  
an assembled kit of the parts claimed in claim 1; and  
5 particles provided in said chamber between said first and second membranes.

18. A particle cassette according to claim 17, wherein said particles comprise powdered drug.

10 19. A needleless syringe including the particle cassette of claim 17.

20. A method of assembling a particle cassette for a needleless syringe device, said method comprising:

- 15 (a) sealing a first rupturable membrane to a first cassette part;  
(b) sealing a second rupturable membrane to a second cassette part;  
(c) supplying particles to said first cassette part; and  
(d) attaching said first and second cassette parts together so as to create a chamber confining said supplied particles between said first and second membranes.

20 21. A method according to claim 20, wherein said sealing steps (a) and (b) comprise heat sealing.

22. A method according to claim 20, wherein attaching step (d) does not involve the application of heat.

25 23. A method according to claim 20, wherein attaching step (d) is carried out at the same temperature as supplying step (c).

24. A method according to claim 20, wherein said first cassette part is

substantially annular and defines a receptacle, said particles being supplied to said receptacle in step (c).

25. A method according to claim 20, wherein said second cassette part is  
5 substantially annular and step (d) comprises fitting said second cassette part concentrically around said first cassette part.

26. A method according to claim 20, wherein said first and second cassette  
10 parts each comprise corresponding features which provide for a snap fit when said first and second cassette parts are attached and step (d) comprises associating said corresponding features to snap said second cassette part onto said first cassette part.

27. A method according to claim 26, wherein said corresponding features  
15 comprise a detent and a recess and step (d) comprises locating said detent in said recess.

28. A method according to claim 20, wherein sealing steps (a) and (b)  
comprise sealing said first and second membranes around their periphery to substantially annular first and second cassette parts respectively.

20 29. A method according to claim 20, wherein step (c) is carried out before step (b).

30. A method according to claim 20, wherein said first and second cassette  
25 parts each comprise a seating face substantially perpendicular to the direction in which the parts are moved to be attached and step (d) further comprises the contacting of said respective seating faces.

31. A method according to claim 20, wherein said first and second cassette  
parts each comprise a tapered face at an acute angle to the direction in which the parts are

moved to be attached and step (d) further comprises the contacting of said tapered faces.

32. A method according to claim 20, wherein said attaching step (d) comprises  
introducing a third cassette part so as to attach said first and second cassette parts  
5 together.

33. A method according to claim 32, further comprising sealing a third  
rupturable membrane to said third cassette part before employing said third cassette part.

10 34. A particle cassette for a needleless syringe device, produced using the  
assembly method of claim 20.